

CLAIMS:

1. A recording apparatus for recording digital audio/video signals on a removable rewritable disc like recording medium, the medium comprising a user area comprising user data represented by the digital audio/video signals, a table area comprising a defect table, the defect table comprising a list of addresses of defect areas in the user area and corresponding replacement areas on the medium, the defect areas identified as defective according to predefined defect management rules, the recording apparatus comprising

5 input means for receiving the digital audio/video signals;
recording means for recording the digital audio/video signals on the medium;
reading means for reading digital audio/video signals recorded on the medium;
10 output means for outputting the digital audio/video signals read;
control means for controlling recording the digital audio/video signals,

characterized in that

the control means are adapted to search the defect table for a replacement area address of a replacement area comprising the user data, to search the defect table for a defect area address of a defect area corresponding to the replacement area, to localize the replacement area according to the replacement area address, to localize the corresponding defect area according to the defect area address, to read the user data from the replacement area and to re-record the user data read in the defect area regardless of the defect management rules.

20 2. A recording apparatus as claimed in claim 1, characterized in that the control means are adapted to collect re-recording information related to re-recording of the user data read in the defect area, to include the re-recording information in the defect table and to record the defect table in the table area.

25 3. A recording apparatus as claimed in claim 2, characterized in that the control means are adapted to read user data re-recorded in the defect area, to compare the user data read from the defect area with the user data read from the corresponding replacement area and to include results of comparing in the re-recording information.

4. A recording apparatus as claimed in claim 2, characterized in that the control means are adapted to use status bits in the defect table to include the re-recording information in the defect table.

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5. A reading apparatus for reading digital audio/video signals from a removable rewritable disc like recording medium, the medium comprising a user area comprising user data represented by the digital audio/video signals, a table comprising a defect table, the defect table comprising a list of addresses of defect areas in the user area and corresponding replacement areas on the medium, the reading apparatus comprising
10 reading means for reading digital audio/video signals recorded on the medium; output means for outputting the digital audio/video signals read;
control means for controlling reading the digital audio/video signals,
characterized in that

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the control means are adapted to monitor a speed of outputting the digital audio/video signals read, to read the defect table from the medium, to search the defect table for a replacement area address of a replacement area comprising the user data, to search the defect table for a defect area address of a defect area corresponding to the replacement area and to read the user data either from the replacement area or from the defect area
20 corresponding to the replacement area in dependence on monitoring and speed requirements for the speed of outputting the digital audio/video signals read.

6. A reading apparatus as claimed in claim 5, the defect table comprising re-recording information related to the user data in the defect area and the replacement area, the
25 reading apparatus characterized in that the control means are adapted to read the user data either from the replacement area or from the defect area in dependence on the re-recording information.

7. A method of arranging digital audio/video signals on a removable rewritable disc like recording medium, the medium comprising a user area comprising user data represented by the digital audio/video signals, a table area comprising a defect table, the defect table comprising a list of addresses of defect areas in the user area and corresponding replacement areas on the medium, the defect areas identified as defective according to
30 predefined defect management rules,

the method characterized by
searching the defect table for a replacement area address of a replacement area comprising the user data;

- 5 searching the defect table for a defect area address of a defect area corresponding to the replacement area;
localizing the replacement area according to the replacement area address;
localizing the corresponding defect area according to the defect area address;
reading the user data from the replacement area;
re-recording the user data read in the defect area regardless of the defect
- 10 management rules.

8. A method as claimed in claim 7, characterized by
collecting re-recording information related to re-recording of the user data read
in the defect area;

- 15 including the re-recording information in the defect table;
recording the defect table in the table area.

9. A method as claimed in claim 8, characterized by
reading user data re-recorded in the defect area;
20 comparing the user data read from the defect area with the user data read from
the corresponding replacement area;
including results of comparing in the re-recording information.

10. A method as claimed in claim 8, characterized by using status bits in the defect
25 table for including the re-recording information in the defect table.

11. A method of reading digital audio/video signals from a removable rewritable disc like recording medium, the medium comprising a user area comprising user data represented by the digital audio/video signals, a table area comprising a defect table, the
30 defect table comprising a list of addresses of defect areas in the user area and corresponding replacement areas on the medium, the method comprising steps of reading the digital audio/video signals from the recording medium and outputting the digital audio/video signals read for processing, characterized by
monitoring a speed of outputting the digital audio/video signals read;

- reading the defect table from the medium;
- searching the defect table for a replacement area address of a replacement area comprising the user data;
- searching the defect table for a defect area address of a defect area corresponding to the replacement area;
- reading the user data either from the replacement area or from the defect area corresponding to the replacement area in dependence on the monitoring and speed requirements for the speed of outputting the digital audio/video signals read.
- 10 12. A method as claimed in claim 11, the defect table comprising re-recording information related to the user data in the defect area and the replacement area, the method characterized by reading the user data either from the replacement area or from the defect area in dependence on the re-recording information.
- 15 13. A computer data system comprising a computer connected to a recording apparatus for recording digital audio/video signals on a removable rewritable disc like recording medium, the medium comprising a user area comprising user data represented by the digital audio/video signals, a table area for recording a defect table comprising a list of addresses of defect areas in the user area and corresponding replacement areas on the medium, the defect areas identified as defective according to predefined defect management rules, the recording apparatus comprising
- input means connected to the computer for receiving the digital audio/video signals;
- recording means for recording the digital audio/video signals on the medium;
- reading means for reading digital audio/video signals recorded on the medium;
- output means for outputting the digital audio/video signals read to the computer;
- control means for controlling recording the digital audio/video signals,
- characterized in that
- 25 30 the computer is adapted to control the control means of the recording apparatus to perform the method according to any of claims 7 – 10.

14. A computer program product for arranging digital audio/video signals on a removable rewritable disc like recording medium, which program is operative to cause a processor to perform the method according to any of claims 7 – 10.